

## PRODUCT DATA SHEET

### DESCRIPTION

Toray Cetex® TC1005 is a thermoplastic composite prepreg designed to deliver an outstanding balance of performance and value. Toray Cetex® TC1005 leverages polyetherimide (PEI) to provide exceptional toughness and proven fire, smoke, and toxicity (FST) performance. Developed for aircraft interior applications, Toray Cetex® TC1005 is a versatile material and an ideal choice for other applications with demanding fire-performance requirements, such as rail interiors. Toray Cetex® TC1005 is available with a variety of reinforcements, including TORAYCA™ T700GC standard-modulus carbon fiber and glass fiber.

### FEATURES

- ▶ Outstanding balance of performance and value
- ▶ Meets FAR 25.853 requirements
- ▶ Excellent FST performance (OSU < 65/65)
- ▶ Available in standard modulus carbon fiber and glass fiber unidirectional tape

### PRODUCT TYPE

PEI (PolyEtherImide) Thermoplastic Resin System

### TYPICAL APPLICATIONS

- ▶ Aircraft interiors: seat shells, ducting channels, galleys, trolleys
- ▶ Rail interiors
- ▶ High-end industrial applications
- ▶ Multiple material assemblies

### TYPICAL NEAT RESIN PROPERTIES

Density (specific gravity)	1.27 g/cm <sup>3</sup> (79.2 lb/ft <sup>3</sup> )
T <sub>g</sub> (glass transition)	217°C (423°F)
T <sub>m</sub> (melt)	N/A (amorphous)
T <sub>p</sub> (processing)	320–350°C (610–660°F)

### SHELF LIFE

<b>Out Life:</b>	Indefinite at ambient temperature storage
<b>Frozen Storage Life:</b>	Not applicable—product does not require freezing



Contact us for more information:

**North America/Asia/Pacific**

**e** [explore@toraytac-usa.com](mailto:explore@toraytac-usa.com)

**t** +1 408 465 8500

**Europe/Middle East/Africa**

**e** [explore@toraytac-europe.com](mailto:explore@toraytac-europe.com)

**t** +31 (0)548 633 933

**Cetex®**

TORAY\_Cetex\_TC1005\_PDS\_v1\_2026-03-02

Page 1/3

## PRODUCT DATA SHEET

### PHYSICAL PROPERTIES

Property	Toray Cetex® TC1005 T700GC Standard Modulus UD Tape	Toray Cetex® TC1005 Glass Fiber UD Tape
Fiber areal weight (FAW)	120 g/m <sup>2</sup> (3.54 oz/yd <sup>2</sup> )	300 g/m <sup>2</sup> (8.84 oz/yd <sup>2</sup> )
Prepreg areal weight (PPAW)	200 g/m <sup>2</sup> (5.90 oz/yd <sup>2</sup> )	500 g/m <sup>2</sup> (14.75 oz/yd <sup>2</sup> )
Resin content by weight (RC)	40%	40%
Fiber Volume (FV)	51%	43%
Consolidated ply thickness (CPT)	0.140 mm (0.0055 in.)	0.257 mm (0.0101 in.)
Density	1.50 g/cm <sup>3</sup> (93.6 lb/ft <sup>3</sup> )	1.97 g/cm <sup>3</sup> (122.9 lb/ft <sup>3</sup> )

For the availability of other reinforcements, please contact Toray Advanced Composites

### MECHANICAL PROPERTIES

Toray Cetex® TC1005 T700GC Standard Modulus 120gsm UD Tape 40% RC				
Property	Condition	Test Method	Result	
Tensile Strength 0°	RTA	ASTM D3039	2410 MPa	350 ksi
Tensile Modulus 0°	RTA	ASTM D3039	110 GPa	16.0 Msi
Tensile Strength 90°	RTA	ASTM D3039	47.0 MPa	6.8 ksi
Tensile Modulus 90°	RTA	ASTM D3039	7.80 GPa	1.13 Msi
Compression Strength 0° (Backout)	RTA	ASTM D6641	1120 MPa	163 ksi
Compression Modulus 0° (Backout)	RTA	ASTM D6641	92.4 GPa	13.4 Msi
In-Plane Shear Modulus ±45°	RTA	ASTM D3518	2.63 GPa	0.381 Msi
0.2% Offset In-Plane Shear Strength ±45°	RTA	ASTM D3518	33.2 MPa	4.82 ksi
In-Plane Shear Strength at 5% Strain ±45°	RTA	ASTM D3518	58.0 MPa	8.40 ksi
Interlaminar Shear Strength (SBS) 0°	RTA	ASTM D2344	89.0 MPa	13.0 ksi
Compression After Impact Strength 36 J (318 in/lb) Impact Energy	RTA	Modified ASTM D7137	305 MPa	44.2 ksi

Nominal 51% Fiber Volume

## PRODUCT DATA SHEET

### MECHANICAL PROPERTIES

Toray Cetex® TC1005 Glass 300gsm UD Tape 40% RC				
Property	Condition	Test Method	Result	
Tensile Strength 0°	RTA	ASTM D3039	892 MPa	129 ksi
Tensile Modulus 0°	RTA	ASTM D3039	37.1 GPa	5.38 Msi
Tensile Strength 90°	RTA	ASTM D3039	39.6 MPa	5.74 ksi
Tensile Modulus 90°	RTA	ASTM D3039	9.30 GPa	1.35 Msi
Flexural Strength 90°	RTA	ASTM D790	83.5 MPa	12.1 ksi
Flexural Modulus 90°	RTA	ASTM D790	8.67 GPa	1.26 Msi
Interlaminar Shear Strength (SBS) 0°	RTA	ASTM D2344	82.4 MPa	12.0 ksi
Nominal 43% Fiber Volume				

### FLAMMABILITY PROPERTIES

Test	Specification	Criteria	15 Plies Toray Cetex® TC1005 T700GC
Flammability	60-second vertical burn FAR 25.853 (a)	152 mm	PASS
Smoke Emission	FAR 25.853 (d)	30	PASS
Heat Release	FAR 25.853 (d)	2-min Total HR (kW min/m²) = 65	PASS
		Peak HR (kW/m²) = 65	PASS

### HANDLING SAFETY

Health and safety information on handling and processing Toray composite materials is described in the Safety Data Sheet available from Toray Advanced Composites. To obtain this or any other information about Toray Cetex® TC1005 thermoplastic composite materials, contact Toray Advanced Composites.

TORAY\_Cetex\_TC1005\_PDS\_v1\_2026-03-02 Page 3/3

© 2019–2026 Toray Advanced Composites. All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and Toray Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties. Toray®, (Toray) AmberTool®, (Toray) Cetex®, (Toray) MicroPly™, and all other related characters, logos, and trade names are claims and/or registered trademarks of Toray Industries Inc. and/or its subsidiary companies in one or more countries. Use of trademarks, trade names, and other IP rights of Toray Industries Inc. without prior written approval by such is strictly prohibited.